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09/779,426	02/08/2001	Daniel L. Roth	10663-013001	5617

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EXAMINER

VO, HUYEN X

ART UNIT

PAPER NUMBER

2655

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,426

Applicant(s)

ROTH ET AL.

Examiner

Huyen Vo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/08/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/08/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 10-12, 17-18, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Curry et al. (US Patent No. 6493669).

1. Regarding claims 1 and 17, Curry et al. disclose a feedback process for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user (118 of figure 1); and

an unrecognized speech comparison process, responsive to said speech input process, for comparing said user's speech command to a plurality of recognized speech commands available in a speech library to determine if said user's speech command is unrecognized speech, as opposed to non-speech (col. 3, ln. 31-36).

2. Regarding claims 10 and 28, Curry et al. disclose a feedback process for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user (118 of figure 1);

an unrecognized speech comparison process, responsive to said speech input process, for comparing said user's speech command to a plurality of recognized speech commands available in a speech library to determine if said user's speech command is unrecognized speech, as opposed to non-speech (col. 3, ln. 31-36); and

an unrecognized speech response process, responsive to said unrecognized speech comparison process determining that said user's speech command is unrecognized speech, for generating a generic response which is provided to said user (col. 4, ln. 25-43).

3. Regarding claims 2 and 18, Curry et al. further disclose that the feedback process further comprises an unrecognized speech response process, responsive to said unrecognized speech comparison process determining that said user's speech command is unrecognized speech, for generating a generic response which is provided to said user (col. 4, ln. 25-43).

4. Regarding claims 3 and 11, Curry et al. further disclose that a generic response is a visual response (col. 4, ln. 33-38).

5. Regarding claims 4 and 12, Curry et al. further disclose that a generic response is an audible response (col. 4, ln. 33-38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8, 13-15, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Epstein (US Patent No. 5465317).

6. Regarding claim 13, Curry et al. disclose a feedback process for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user (118 of figure 1); and

an unrecognized speech comparison process, responsive to said speech input process, for comparing the user's speech command to a plurality of recognized speech commands available in the speech library to determine if the user's speech command is unrecognized speech, as opposed to non-speech (col. 3, ln. 31-36).

Curry et al. fails to specifically disclose that the unrecognized speech comparison process includes a user speech modeling process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for the

user's speech command; wherein the unrecognized speech comparison process further includes a recognized speech modeling process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models.

However, Epstein teaches that the unrecognized speech comparison process includes a user speech modeling process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for the user's speech command (col. 4, ln. 13-19); wherein the unrecognized speech comparison process further includes a recognized speech modeling process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models (col. 5, ln. 15-22, acoustic speech models have already been generated and pre-stored in acoustic command models store 12 of figure 1). The advantage of using the teaching of Epstein in Curry et al. is to enhance recognition accuracy by comparing user's acoustic model against acoustic models stored in the library.

Since Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Epstein in order to enhance recognition accuracy by comparing the user's acoustic model against acoustic models stored in the library.

7. Regarding claims 5 and 19, Curry et al. fail to specifically disclose that the unrecognized speech comparison process includes a user speech modeling process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for said user's speech command. However, Epstein teaches a process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for the user's speech command (col. 4, ln. 13-19). The advantage of using the teaching of Epstein in Curry et al. is to enhance recognition accuracy by comparing acoustic models.

Since Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Epstein in Curry et al. order to enhance recognition accuracy by comparing acoustic models.

8. Regarding claims 6 and 20, the modified Curry et al. al. fails to specifically disclose that the unrecognizable speech comparison process further includes a recognized speech modeling process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models.

However, Epstein teaches a process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models (col. 5, ln. 15-22, acoustic speech models have already been generated and pre-stored in acoustic command models store 12 of figure 1). The advantage of using the teaching of Epstein in the modified Curry et al. is to enhance the recognition accuracy.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to enhance the recognition accuracy.

9. Regarding claims 7, 14, and 21, the modified Curry et al. fails to specifically disclose that the unrecognized speech comparison process further includes an acoustical model comparison process for comparing the user speech acoustical model to each of the recognized speech acoustical models, thus defining a plurality of acoustical scores which relate to the user's speech command, one score for each the comparison performed.

However, Epstein teaches a process for comparing the user speech acoustical model to each of the recognized speech acoustical models, thus defining a plurality of acoustical scores which relate to the user's speech command, one score for each the comparison performed (col. 5, ln. 15-23). The advantage of using the teaching of

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Epstein in the modified Curry et al. is to provide a mean to select the best recognizing candidate.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to provide a mean to select the best recognizing candidate.

10. Regarding claims 8, 15, and 22, the modified Curry et al. ^{fail to show} ~~disclose that~~ the unrecognized speech comparison process further includes an unrecognized speech window process for defining an acceptable range of acoustical scores indicative of unrecognized speech, wherein the user's speech command is defined as unrecognized speech if the acoustical score, chosen from a plurality of acoustical scores, which indicates the highest level of acoustical match falls within an acceptable range of acoustical scores.

However, Epstein teaches a process further includes an unrecognized speech window process for defining an acceptable range of acoustical scores indicative of unrecognized speech (col. 10, ln. 28-33, initializing the recognition threshold defines the recognition and unrecognition ranges), wherein the user's speech command is defined as unrecognized speech if the acoustical score, chosen from a plurality of acoustical scores, which indicates the highest level of acoustical match falls within an acceptable range of acoustical scores (col. 10, ln. 16-23). The advantage of using the teaching of

Epstein in the modified Curry et al. is to define the recognition boundary to allow the system to select or reject the recognition result.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to define the recognition boundary to allow the system to either select or reject the recognition result.

Claims 9, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Epstein (US Patent No. 5465317) and further in view of Gammel et al. (US Patent No. 5832429).

11. Regarding claims 9, 16, and 23, the modified Curry et al. as applied to claim 7 fail to disclose that a plurality of recognized speech commands includes an unrecognized speech entry, the recognized speech modeling process further performs an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry, and the acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score; wherein the user's speech command is defined as unrecognized speech if an unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores.

However, Gammel et al. teach a process for performing an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry (col. 1, ln. 30-31 and col. 5, ln. 55-63), and the acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score (col. 1, ln. 30-31), wherein the user's speech command is defined as unrecognized speech if an unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores (col. 8, ln. 13-15). The advantage of using the teaching of Gammel et al. in the modified Curry et al. is to create a garbage model used to explain unrecognized speech.

Since the modified Curry et al. and Gammel et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Gammel et al. in order to create a garbage model used to explain unrecognized speech.

Claim 24-27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669).

12. Regarding claim 24, Curry et al. fail to specifically disclose computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to perform

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the method disclosed claim 10. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the feedback process of claim 10 in software to perform feedback for unrecognized speech. The benefit of doing this is to let the user know that the input speech command is unrecognized so that the user inputs a different command.

13. Regarding claims 25, 26, and 27, Curry et al. fail to specifically disclose the computer readable medium is a random access memory (RAM), read only memory (ROM), a hard disk drive, respectively. However, it would have been obvious to one of ordinary skill in the art that RAM, ROM, and hard disk drive are storage media of a computer. The advantage of this is to provide a convenient way to maintain and update the system.

Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Franz et al. (US Patent No. 6278968).

14. Regarding claims 29-32, Curry et al. fail to specifically disclose that the processor and memory are incorporated into a wireless communication device, cellular phone, a personal digital assistant, palmtop computer, and child's toy, respectively. However, Franz et al. teach that the processor and memory are incorporated into a wireless communication device (col. 9, ln. 16), cellular phone (col. 9, ln. 16), a personal digital assistant (col. 9, ln. 16), and palmtop computer (col. 9, ln. 16, PDA is a palmtop

computer). The advantage of using the teaching of Franz et al. in Curry et al. is to provide a mean for storing application programs used to process the input speech.

Since Curry et al. and Franz et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Franz et al. in order to provide a mean for storing application programs used to process the input speech.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Gabai et al. (US Patent No. 6160986).

15. Regarding claim 33, Curry et al. fail to specifically disclose that a processor and memory are incorporated into a child's toy. However, Gabai et al. teach that a processor and memory are incorporated into a child's toy (figures 6 and 7). The advantage of using the teaching of Gabai et al. in Curry et al. is to provide a mean for storing application programs used to process the input speech.

Since Curry et al. and Gabai et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Gabai et al. in order to provide a mean for storing application programs used to process the input speech.

Conclusion

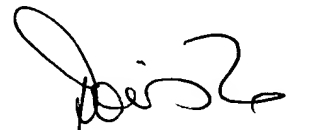
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665 and email address is huyen.vo@uspto.gov. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-306-0377.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Examiner Huyen X. Vo

January 16, 2004



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